

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor integrated circuit, ~~provided as~~
comprising:

a monolithic circuit, for decryption of encrypted broadcast signals, the monolithic circuit comprising:

an input interface ~~for receipt of received~~ structured to receive the encrypted broadcast signals, a to receive broadcast encrypted common key keys, and to receive encrypted broadcast control data having encrypted control signals, and an output interface for output of decrypted broadcast signals;

a processing unit arranged to receive the encrypted broadcast signals via the input interface, to decrypt the encrypted broadcast signals in accordance with decrypted control signals, and to provide decrypted broadcast signals to the output interface;

a first decryption circuit arranged to receive encrypted control signals from the input interface, ~~and~~ to decrypt the control signals in accordance with a decrypted common key from a dedicated common key store in the integrated circuit, and to output the decrypted control signals to the processing unit, the common key store structured to store a plurality of decrypted common keys in association with a respective identifier corresponding to each broadcast signal;

and

a second decryption circuit arranged to receive the common key in encrypted form from the input interface and to decrypt the common key in accordance with a secret key from a secret key store in the integrated circuit and to store the decrypted common key in the decrypted common key store, the secret key being unique to the monolithic circuit and being not accessible from outside the monolithic circuit;

whereby the ~~monolithic circuit is arranged such~~ structured so that the only route to placing a common key in the common key store is to receive by broadcast the common key in encrypted form for decryption in accordance with the secret key and provide the common key to the common key store over an internal bus, the common key store receiving and storing a plurality of decrypted common keys that provide different levels of access to the broadcast signals, and the only route to providing the control signals to the processing unit is to input them in encrypted form for decryption in accordance with the common key.

2. (Original) The semiconductor integrated circuit of claim 1, wherein the first decryption circuit and second decryption circuit are formed in a common circuit.

3. (Original) The semiconductor integrated circuit of to claim 1, wherein at least one of the first decryption circuit and the second decryption circuit comprises an AES circuit.

4. (Original) The semiconductor integrated circuit of claim 1, wherein the broadcast signal comprises a digital television signal and the processing unit comprises a DVB circuit.

5. (Original) The semiconductor integrated circuit of claim 1, wherein the input interface has a separate input for the encrypted common key connected to the decryption circuit.

6. (Original) The semiconductor integrated circuit of claim 1, wherein the secret key is unique to the semiconductor integrated circuit.

7. (Currently Amended) The semiconductor integrated circuit of claim 1, wherein the multiple identifiers are associated with each common key store ~~is arranged to store multiple common keys~~.

8. (Canceled)

9. (Currently Amended) A system for broadcasting signals to a plurality of subscribers in which only authorized recipients are able to decrypt the broadcast signals, the system comprising:

a transmitter arranged to broadcast:

signals encrypted according to control words;

control words encrypted according to a common key common to two or more authorized recipients; and

a common key-keys encrypted respectively according to a unique secret key of each authorized recipient, each of the common keys associated with the respective encrypted broadcast signals with a respective identifier;

the system further comprising a plurality of receivers, each receiver comprising a semiconductor integrated circuit, wherein the secret key is unique to each semiconductor integrated circuit, the semiconductor integrated circuit comprising:

an input interface for receipt of received-structured to receive the encrypted broadcast signals, a broadcast encrypted common-key keys, and broadcast control data with encrypted control signals, and an output interface for output of decrypted broadcast signals;

a processing unit arranged-structured to receive the encrypted broadcast signals via the input interface, to decrypt the encrypted broadcast signals in accordance with control signals, and to provide decrypted broadcast signals to the output interface;

a first decryption circuit arranged to receive the encrypted control signals from the input interface and to decrypt the control signals in accordance with a respective decrypted common key and identifier from a dedicated common key store in the integrated circuit that stores a plurality of decrypted common keys and associated identifiers; and

a second decryption circuit arranged to receive the common key-keys in encrypted form from the input interface and to decrypt the common key-keys in accordance with a secret key from a secret key store in the integrated circuit and to store the-each decrypted common key in the decrypted common key store with a respective identifier;

whereby the circuit is arranged such that the only route to placing a common key in the common key store is to receive by broadcast the common key in encrypted form for decryption in accordance with the secret key and provide the common key to the common key store over an internal bus, and the only route to providing the control signals to the processing unit is to input them in encrypted form for decryption in accordance with the common key.

10. (Currently Amended) A set top decoder device for decryption of broadcast signals, comprising:

a monolithic device located in the set top box;

a common key store in the monolithic device and configured to receive a decrypted common key and a respective identifier that is associated with a respective broadcast signal;

a secret key store in the monolithic device configured to store a secret key that is unique to the monolithic device;

a decryption unit comprising a first decryption circuit configured to receive encrypted broadcast control signals and to decrypt the control signals in accordance with a respective common key from the common key store, and a second decryption circuit configured to receive the broadcast common key in encrypted form and to decrypt the common key in accordance with a secret key from the secret key store and to store the decrypted common key in the common key store with the respective identifier that associates the decrypted common key with the respective broadcast signal; and

a processing unit configured to receive encrypted broadcast signals and decrypt the encrypted broadcast signals in accordance with the decrypted control signals received from the decryption unit and to provide decrypted broadcast signals to an output interface;

whereby the device is arranged such that the only route to placing a common key in the common key store is to input the common key in encrypted form for decryption in accordance with the secret key and provide the common key to the common key store over an

internal bus, and the only route to providing the control signals to the processing unit is to input them in encrypted form for decryption in accordance with the common key.

11. (Original) The device of claim 10, wherein the common key store is configured to store multiple common keys.

12. (Original) The device of claim 10, wherein the decryption device is formed as a single semiconductor integrated circuit having an input interface for receipt of encrypted broadcast signals, encrypted control signals, and encrypted common keys, and an output interface for output of decrypted broadcast signals.

13. (Currently Amended) A method of decrypting encrypted broadcast signals, comprising:

receiving encrypted broadcast signals, encrypted broadcast control signals for the respective broadcast signals, and encrypted broadcast common key signals at an input interface of a decryption unit formed on a monolithic semiconductor integrated circuit, the semiconductor integrated circuit comprising a common key store, a secret key store, and a processing unit;

decrypting the encrypted broadcast common ~~key~~ keys utilizing a stored secret key in ~~a~~ the secret key store in the semiconductor integrated circuit to generate ~~a~~ decrypted common ~~key~~ keys and program identifier that associates each common key with the respective broadcast signal and that provides different levels of access to the broadcast signals through the common keys;

storing the decrypted common ~~key~~ keys in the common key store in the semiconductor integrated circuit with the respective identifiers in a table format;

decrypting the encrypted control signals for respective broadcast signals with the respective common key to generate decrypted control signals;

providing the decrypted control signals to the processing unit; and

decrypting the encrypted broadcast signals using the processing unit in accordance with the decrypted control signals and providing decrypted broadcast signals to an output interface of the decryption device;

whereby the semiconductor integrated circuit is arranged such that the only route to placing the decrypted common ~~key~~keys in the common key store is to receive by broadcast the common ~~key~~keys in encrypted form for decryption in accordance with the secret key and provide the decrypted common ~~key~~keys to the common key store over an internal bus, and the only route to providing the control signals to the processing unit is to input them in encrypted form for decryption in accordance with the respective common key.

14. (Currently Amended) The method of claim 13, further comprising storing a secret key that is unique to the decryption unit in ~~a~~the secret key store in the decryption unit.

15. (Currently Amended) The method of claim 13, further comprising ~~receiving multiple encrypted~~ changing the encrypted broadcast common keys, decrypting each of the encrypted common keys to generate multiple decrypted common keys, and storing the multiple decrypted common keys in a common key store in the decryption unit at a rate that is in the range of more than once per hour.

16. (Currently Amended) A method for broadcasting signals to a plurality of subscribers in which only authorized recipients are able to decrypt the broadcast signals that include picture and sound components, the method comprising:

encrypting control words associated with the broadcast signals and broadcasting the encrypted control words;

encrypting ~~a common key~~keys associated with the broadcast signals by program identifiers and broadcasting the encrypted common ~~key~~keys;

encrypting broadcast signals and broadcasting the encrypted broadcast signals to the plurality of subscribers;

providing a secret key to each authorized recipient that is stored in a secret key store on a monolithic semiconductor integrated circuit in a respective decryption unit;

receiving encrypted broadcast signals, encrypted broadcast control signals for the respective broadcast signals, and encrypted broadcast common key signals at an input interface of a decryption unit formed on the monolithic semiconductor integrated circuit, the semiconductor integrated circuit comprising a common key store, a secret key store, and a processing unit;

decrypting the encrypted common ~~key~~ keys utilizing a stored secret key to generate ~~a~~ decrypted common ~~key~~ keys and program identifier that associates each common key with the respective broadcast signal;

storing the decrypted common ~~key~~ keys in a dedicated common key store on the monolithic semiconductor integrated circuit with the respective identifiers in a table format;

decrypting the encrypted control signals for respective broadcast signals with the respective decrypted common key to generate decrypted control signals;

providing the decrypted control signals to the processing unit; and

decrypting the encrypted broadcast signals using the processing unit in accordance with the decrypted control signals and providing decrypted broadcast signals to an output interface of the decryption device;

whereby the semiconductor integrated circuit is arranged such that the only route to placing a common key in the common ~~key~~ keys store is to receive by broadcast the common ~~key~~ keys in encrypted form for decryption in accordance with the secret key and provide the common ~~key~~ keys to the common key store over an internal bus, and the only route to providing the control signals to the processing unit is to receive by broadcast them in encrypted form for decryption in accordance with the respective common key.

17. (Currently Amended) The method of claim 16, further comprising storing a secret key that is unique to the decryption unit in ~~a~~ the secret key store in the decryption unit.

18. (Currently Amended) The method of claim 16, further comprising ~~receiving multiple encrypted~~ changing the encrypted broadcast common keys, decrypting each of the encrypted common keys to generate multiple decrypted common keys, and storing the multiple decrypted common keys in a common key store in the decryption unit at a rate that is in the range of more than once per hour.

19. (Currently Amended) A system for broadcasting signals to a plurality of subscribers in which only authorized recipients are able to decrypt the broadcast signals that include picture and sound components, the system comprising:

a transmitter configured to broadcast signals encrypted according to control words, to broadcast control words encrypted according to a common key that is common to two or more authorized recipients, and to broadcast the common key encrypted according to a secret key that is unique to each authorized recipient, the system configured to change the encrypted common keys at a rate that is greater than once per hour; and

a plurality of receivers configured to receive the broadcast signals, each receiver comprising:

a common key store formed on a single monolithic semiconductor integrated circuit and configured to receive the broadcasted common key and a respective identifier that is associated with a respective broadcast signal;

a secret key store formed on the single monolithic semiconductor integrated circuit and configured to store a secret key that is unique to the monolithic device;

a decryption unit formed on the single monolithic semiconductor integrated circuit and comprising a first decryption circuit configured to receive the broadcasted encrypted control signals and to decrypt the encrypted control signals in accordance with ~~the a~~ a respective common key from the common key store, and a second decryption circuit configured to receive the broadcasted common key in encrypted form and to decrypt the encrypted common key in accordance with a secret key from the secret key store and to store the common key in the common key store with the respective identifier that associates the decrypted common key with the respective broadcast signals; and

a processing unit formed on the single monolithic semiconductor integrated circuit and configured to receive encrypted broadcast signals and decrypt the encrypted broadcast signals in accordance with the decrypted control signals received from the decryption unit and to provide decrypted broadcast signals to an output interface;

whereby the system is arranged such that the only route to placing a common key in the common key store is to receive by broadcast the common key in encrypted form for decryption in accordance with the secret key and provide the decrypted common key to the common key store over an internal bus, and the only route to providing the control signals to the processing unit is to receive them by broadcast in encrypted form for decryption in accordance with the common key.

20. (Canceled)

21. (Previously Presented) The system of claim 19, wherein the decryption device is formed on the a single semiconductor integrated circuit having an input interface for receipt of encrypted broadcast signals, encrypted control signals, and encrypted common keys, and an output interface for output of decrypted broadcast signals.

22. (New) The system of claim 9, wherein the secret key is unique to the semiconductor integrated circuit.